Amendments to the Claims

This following Listing of the Claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1-28. (Canceled)
- 29. (New) A compound having the structure

wherein m is an integer between 1 and 10, inclusive; A and A^{1} are L-amino acid residues such that the A in each repeating bracketed unit can be a different amino acid residue; the C bonded to B is in the L-configuration; the bonds between A and N, A^{1} and C, and between A^{1} and N are peptide bonds; and each X^{1} and X^{2} is, independently, a hydroxyl group or a group capable of being hydrolyzed to a hydroxyl group at physiological pH.

- 30. (New) The compound of claim 29, wherein A and A¹ are independently L-proline or L-alanine residues.
- 31. (New) The compound of claim 29, wherein m is 1 or 2.
- 32. (New) The compound of claim 29, wherein X^1 and X^2 are hydroxyl groups.
- 33. (New) The compound of claim 29, wherein the compound has a binding or dissociation constant to DP-IV of at least 10⁻⁹ M, 10⁻⁸ M, or 10⁻⁷ M.

- 34. (New) The compound of claim 29, further comprising a pharmaceutically acceptable carrier or diluent.
- 35. (New) A compound having the structure:

$$[Z-Ala]_p - X - Pro - Y - boroPro$$
 wherein each Y, X, and Z, independently, is any amino acid, and wherein p is 0, 1, or more than 1.

- 36. (New) The compound of claim 35, wherein Z is proline.
- 37. (New) The compound of claim 35, wherein p is 1.
- 38. (New) A compound having the structure:

$$[Z-Pro]_p-X-Pro-Y-boroPro$$
 wherein each Y, X, and Z, independently, is any amino acid, and wherein p is 0, 1, or more than 1.

- 39. (New) The compound of claim 38, wherein Z is proline.
- 40. (New) The compound of claim 38, wherein p is 0-3.
- 41. (New) The compound of claim 38, wherein p is 1.
- 42. (New) A compound having the structure:

wherein Group I is

Page 3 of 7

wherein H represents a hydrogen; C represents a carbon; O represents an oxygen; N represents a nitrogen; each R, independently, is chosen from the group consisting of the R groups of an amino acid; each broken line, independently represents a bond to an H or a bond to one R group, and each H' represents that bond or a hydrogen; p is an integer between 0 and 4 inclusive;

and Group II is selected from the group consisting of

(i)

wherein T is selected from a group consisting of a group of the formula

(1)

wherein each D¹ and D² independently is a hydroxyl group or a group which is capable of being hydrolysed to a hydroxyl group in aqueous solution at physiological pH;

(2) a group of the formula

wherein G is either H, fluorine (F) or an alkyl group containing 1 to 20 carbon atoms and optional heteroatoms which can be N, S (sulfur) or O; and

(3) a phosphonate group of the formula

wherein each J, independently is O-alkyl, N-alkyl or alkyl comprising 1-20 carbon atoms and optionally heteroatoms which can be N, S or O; and

wherein each R¹, R², R³, R⁴, R⁵, R⁶, R⁷, and R⁸ separately is a group which does not significantly interfere with site specific recognition of the inhibitory compound by DP-IV and allows a complex to be formed with DP-IV.

43. (New) A compound of claim 42, wherein Group I is

(1)
$$H = \begin{pmatrix} H & O & O & H \\ H & -C & -C & -N & -C & -C \\ R & R^{1} & -C & -Y & -P \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & R^{2} & -C & -N & -C & -C \\ R & -C & -N & -C & -C & -N \\ R & -C & -C & -N & -C & -C \\ R & -C & -C & -N & -C \\ R$$

wherein H represents a hydrogen; C represents a carbon; O represents an oxygen; N represents a nitrogen; each R, independently, is chosen from the group consisting of the R groups of an amino acid; each broken line, independently represents a bond to an H or a bond to one R group, and each H' represents that bond or a hydrogen; p is an integer between 0 and 4 inclusive;

and Group II is

(i)

wherein T is

(1)

wherein each D¹ and D² independently is a hydroxyl group or a group which is capable of being hydrolysed to a hydroxyl group in aqueous solution at physiological pH; and

Y is
$$R^3-C-R^4$$
,

wherein each R¹, R², R³, and R⁴ separately is a group which does not significantly interfere with site specific recognition of the inhibitory compound by DP-IV and allows a complex to be formed with DP-IV.

44. A method for inhibiting DP-IV activity in a mammal comprising administering to a mammal in need thereof an effective amount of the compound of claim 29, 35, 38, or 42.